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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,153	08/06/2007	Masanobu Kusunoki	SAK-5524	6069
24956	7590	12/08/2010	EXAMINER	
MATTINGLY & MALUR, P.C.				BAND, MICHAEL A
1800 DIAGONAL ROAD				
SUITE 370				
ALEXANDRIA, VA 22314				
				1723
ART UNIT		PAPER NUMBER		
MAIL DATE		DELIVERY MODE		
12/08/2010		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/594,153	KUSUNOKI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	MICHAEL BAND	1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 12 October 2010.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1 and 3-12 is/are pending in the application.
  - 4a) Of the above claim(s) 6-12 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1 and 3-5 is/are rejected.
- 7) Claim(s) 6-12 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____ .	6) <input type="checkbox"/> Other: _____ .

## **DETAILED ACTION**

### ***Specification***

1. The substitute specification filed 10/12/2010 has not been entered because it does not conform to 37 CFR 1.125(b) and (c) because: new matter appears to have been added. For example on p. 13 the amended Specification states that it becomes easy to introduce the particulate thin film, whereas the original Specification stated that it becomes possible. P. 13 of the amended Specification also states that an inclined portion spaced away a distance from the substrate that becomes shorter in the direction in the direction of introducing the particulate thin film material, whereas the original Specification doe not appear to have this teaching.

### ***Claim Objections***

2. Claims 6-12 is objected to because of the following informalities: Claim status identifier reads 'Currently Amended' yet should read as 'Withdrawn - Currently Amended' since the claims have been withdrawn in the Non-Final Office Action dated 6/9/2010. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1 and 3-5 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 1 and 3-5 contain requirements that are supported by amendments to the Specification, which have been objected to for appearing to contain new matter. Claim 1 also contains the requirement that the introducing includes (emphasis added) the converging. There is no support in the Specification. The Examiner does note that the Applicant's Specification (see USPGPub 2008/0076269; para 0031 and 0063) teaches 'introducing the material with converging the material' or 'converging the material in process of introducing the material'.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1 and 3-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 contains the requirement of the material introduced including converging the material and increasing its density. It is unclear to what the term "it" references. For examination purposes, the term 'it' has been interpreted to refer to the particulate material.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

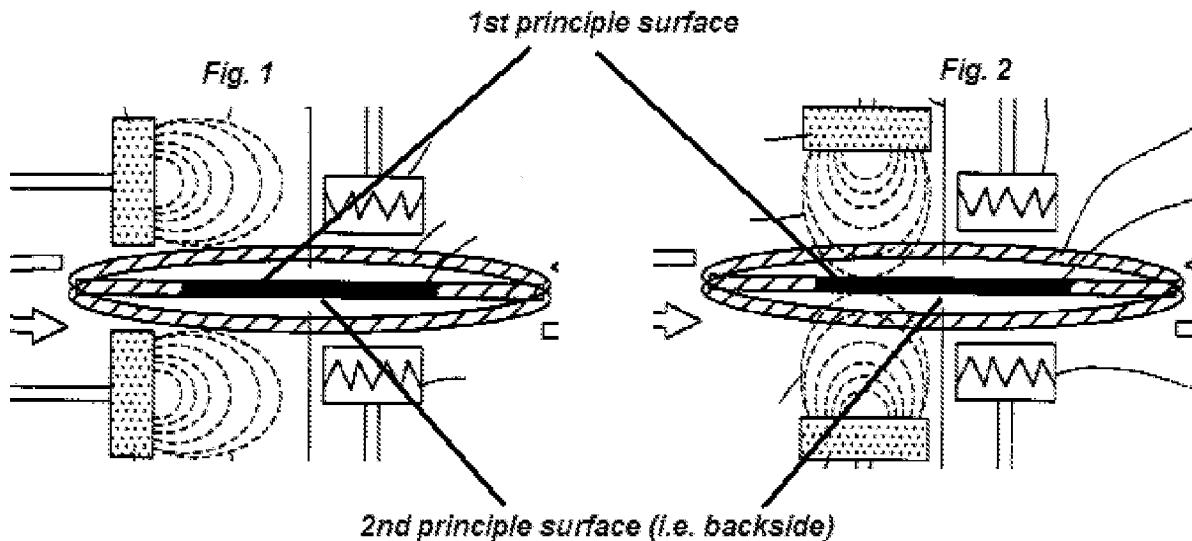
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1 and 3-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Suh et al (US Patent No. 6,280,580).

With respect to claims 1 and 3-5, Suh et al discloses a method of manufacturing a double-sided metal superconducting oxide thin film (abstract; col. 2, lines 56-58), where figs. 1-2 depicts sputter targets [1],[2] depositing material onto a first principle surface having an extension of an in-plane direction and a second principle surface (i.e. backside) of a substrate [6] where substrate heaters [3],[4] face said first principle surface and said second principle surface. Figs. 1-2 further depict the substrate [6] rotated about an axis that is normal to the first principle surface, with said axis represented by parts [9], [10]. Suh et al discloses introducing the material onto the first and second principle surfaces, which includes the substrate heaters [3],[4] to crystallizing said material (i.e. converging the atoms of the material into crystal form) (col. 2, lines 66-67; col. 3, lines 1-5 and 31-37). Therefore since Suh et al discloses the claimed exposing, introducing, and converging of the material on the first and second principle surface, it is expected that the material exhibits the property of increased density, as supported by Applicant's Specification (see USPGPub 2008/0076269; para

0063). If not, it must be due to a claim requirement not currently present. The cropped figures below of figs. 1-2 serve to further clarify the first and second principle surfaces.



### ***Response to Arguments***

#### **Claim Objections**

9. The Applicant has deleted the subject matter in parenthesis; the previous objection is withdrawn.

#### **112 Rejections**

10. The Applicant has amended claim 1 to require that the second principle surface is exposed; the objection is withdrawn. The Applicant has cancelled claim 2; the previous rejection is moot.

#### **102 Rejections**

11. Applicant's arguments filed 10/12/2010 have been fully considered but they are not persuasive.

12. On p. 8-9, the Applicant argues that Suh et al does not teach exposing the first and second principle surfaces, and introducing the material including converging the material and increasing the density of the material.

The Examiner respectfully disagrees. Suh et al teaches in figs. 1-2 exposing the first and second principle surfaces, which includes introducing the material via sputter targets [1],[2] and converging by crystallizing the material via substrate heaters [3],[4]. The material (i.e. product of the process) exhibiting the increased density results from the introducing and converging of the material. Therefore since Suh et al discloses the claimed exposing, introducing, and converging of the material on the first and second principle surface, it is expected that the material exhibits the property of increased density. see MPEP 2112.01, Section I. If not it must be due to a claim requirement not currently present.

### ***Conclusion***

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Band whose telephone number is (571) 272-9815. The examiner can normally be reached on Mon-Fri, 9am-5pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on (571) 272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/M. B./

Examiner, Art Unit 1723

/Alexa D. Neckel/

Supervisory Patent Examiner, Art Unit 1723